

A form of this species was collected, at the same time as the type, on the farm "Sandvlei" (*P. A. B. van Breda* 1902/63) and, as the flowers of both collections had withered in delayed transit, plants were given to Kirstenbosch, where they flowered in April 1965. The description of the type is based mainly on these.

Conophytum parvimarinum L. Bol. sp. nov. (*Euconophytum-Saxetana*).—Vagina persistens anni prioris papyracea pallida, seniores tenuiter pergamentaceae, brunneae; corpuscula saepius late obovata vel rarius obovata, 6–9 mm. longa, ad 8 mm. diam., basi rotunda, apice elliptico convexulo, ab ore ad marginem interdum obscure carinata, superne breviter molliterque pubescentia, sat pallide viridia, ore linea saturatiore cincto, $\pm$ ringente, intus dense pubescente, pilis fere erectis, ad 3 mm. longo; flores per diem noctemque expansi, fragrantis; pedunculi ad 3 mm. longi, basi bracteati; bractee herbaceae obtusae, intus concavae, dorso rotundo, 2 mm. longae, vagina lobos aequante; receptaculum globosum, ad 3 mm. diam.; calyx herbaceus, fere ad 5 mm. longus, tubo ad 3 mm. longo, segmentis 4, 2 obtusis, 2 angustioribus acutis, inconspicue papillois, late marginatis; corolla ad 1 cm. longa, tubo albo, 5 mm. longo, segmentis 2-seriatis subaequilongis, obtusissimis, pallide roseis, fere ad 1 mm. latis; filamenta ca. 10, e parum infra medium tubi adnata, alba exserta, antheris fere ad 2 mm. longis, cum polline luteis; discus conspicuus ochraceus; ovarium supra profunde concavum, medio cylindrice elevato, in stylum insensim transeunte; stylus albus, 2 mm. longus; stigmata 4, ad 7 mm. longa.

Cape Province: Namaqualand; Kleinsee, *P. A. B. van Breda* 2054/64. Fl. Mart. 1965. N.B.G. 138/64.

The name refers to the locality of this species, being a translation of Kleinsee or Littlesea in the form of an adjective.

Conophytum largum L. Bol. sp. nov. (*Derenbergia*).—Planta 1 visa, internodiis inclusis; vagina persistens anni prioris aspera rugosa, saturate brunnea, superne atre punctata; corpuscula ad 6 cm. longa, circuitu late obovato, asperula, medio vaginae 1.6 cm. lato, lobis ad 2 cm. longis, basi ad 1.4 cm. latis, pustula sat conspicua, supra visis acutis, lateraliter visis truncatis convexulis, 1.2–2 cm. diam., parte pellucida subquadrata vel subcuneata, carina marginibusque sordide purpureo lineatis, divergio ad 2.5 cm. longo; pedunculus 2.5 cm. longus, bene supra basim bracteatus, bracteis herbaceis acutis carinatis, 9–13 mm. longis, vagina fere duplo longiore quam lobis, sinu angustissimo; receptaculum ad 3 mm. longum, ad 4 mm. diam.; calyx herbaceus, 1.3 cm. longus, tubo 6 mm. longo, segmentis 5–6, linearibus acutis, dorso convexulo, 4–8 mm. longis; corolla 2 cm. longa, tubo superne leviter ampliato, albo, 9 mm. longo, segmentis ca. 3-seriatis, obtusis vel obscure emarginatis, laete luteis, ad 1.25 mm. latis; filamenta ca. 6-seriata, e basi tubi adnata, alba, superiora tantum breviter exserta aureae; discus inconspicuissimus; ovarii

lobi compressi, fere ad 2 mm. conice elevati; stylus 1·5 mm. longus vel subnullus; stigmata 5—6, ad 1·1 cm. longa, stamina bene superantia; capsula 1 visa, sublignescens, infra obconica, tenuiter 12-costata, 5 mm. longa, 8 mm., expansa 1·4 cm., diam., supra obtuse 6-angulata, ad 3 mm. elevata, dimidio superiore valvarum erecto, itaque capsula iterum non omnino clausa.

Cape Province: Namaqualand; prope Steinkopf, *P. A. B. van Breda* 1323. Fl. Veld Reserve, Worcester, Apr. 1965.

The name refers to the large diameter attained by the lobes of the body. Although "the collection was made a long time ago" the plant showed no signs of luxuriant growth.

Lampranthus baylissii L. Bol. sp. nov.—Erectus, diffuse copioseque ramosus, internodiis 2—10 mm. longis, 11 cm., vel culta ad 15 cm., altus; caulis ad 5 mm. diam.; folia ascendentia, interdum subfalcata, supra visa linearia acuta, lat. visa inferne saepe angustata, acuta vel oblique rotundata, viridia, ad 2 cm. longa, 1·5 mm. lata, superne ad 2·5 mm. diam.; flores solitarii; pedunculi 8—10 mm. longi, prope medium bracteati; receptaculum obconicum, 3—4 mm. longum diametroque; sepala 5, omnia $\pm$ marginata, fere e basi superne angustata, acuta, interiora apud apicem acute subulata, 4—7 mm. longa, basi 1·5—3 mm. lata; petala 3—4-seriata, interiora pauca, saepius ex infra medium inferne angustata, obtusa vel subacuta, laete lutea, 5—11 mm. longa, 1—2 mm. lata; staminodia nulla; filamenta ca. 4-seriata, epapillata, pallida vel aurea, ad 4 mm. longa, antheris pollineque aurantiacis; ovarii lobi erecti distincti, obtuse compressi, ad 0·75 mm. elevati; stigmata 5, anguste subulata, ad 3 mm. longa cum cauda 1—1·5 mm. longa; capsula infra obconica, acute 5-costata, 6 mm. longa, 6 mm., expansa 1·2 cm., diam., supra per 2 mm. elevata, suturis compressis, valvis ringentibus, carinis distantibus, minute lacerulatis, arista sat longa, apicem valvae attingentibus, alis valvae nunc prope basim tantum adnatis aliterque liberis, nunc ad carinas omnino adnatis.

Cape Province: in dit. Knysna; "Flat Rock, Knysna", *R. D. Bayliss* 1083. Fl. Nov. 1964. N.B.G. 1103/62. "Now 1 ft. in diameter, about 6 inches in height, a very showy plant" (*H. Hall*). Sedgfield, Knysna, Nov. 1964, *A. J. Middlemost*. N.B.G. 569/64.—

NOTE.—The measurements given above have nearly all been taken from the wild plant and are less than those in the more luxuriantly grown one.

NOTE.—The type-specimens of all new species described in this paper are in the Bolus Herbarium, University of Cape Town.

(To be continued)

STAPELIEAE FROM SOUTH TROPICAL AFRICA, I.

L. C. LEACH

(With Plates XXXVIII—XXXIX)

Caralluma valida N. E. Brown and *C. gossweileri* S. Moore are rather rare and imperfectly known species from southern tropical Africa. As good material has now become available it is thought opportune to publish the following notes with amplified descriptions of both species.

Caralluma valida was first collected by Dr. Emil Holub during one of his journeys through Bechuanaland to the Zambesi River, probably on the last of these, which he made during the years 1875—1877.

The locality of the type collection is unknown but taking into account the record of his journeys given by Dr. Holub in his *Seven Years in South Africa* (1881) and the localities of the more recent gatherings it seems probable that the original collection was made in northern Bechuanaland or possibly in western S. Rhodesia.

The species then seems to have remained uncollected until about 1937; the plant cultivated in Dr. Louis Thompson's garden at Messina, N. Transvaal, flowered in March 1938 and a specimen is preserved at PRE; it is unfortunate that this excellent material is also of uncertain origin, the locality being given on the label as "? Messina". No further collections appear to have been made until about 1950. From then on records have accumulated quite steadily.

Despite its wide range of distribution *C. valida* remains a rare species, most, if not all recent gatherings have been of one plant only, despite in some cases at least, most diligent searching of the vicinity for further specimens; the distribution range would be considerably extended if Dr. Thompson's plant was in fact collected in the Transvaal, but as he discovered *Stapelia tarantuloides* R. A. Dyer in the southern Matopo Hills at some time prior to 1938, a living plant of *C. valida* may well have been collected on the same excursion.

Caralluma valida N. E. Brown in Kew Bull. 1895; 264 (1895).—in Th. Dyer, F.T.A. 4, 2: 486 (1902).—A. Berger, Stapelieen und Kleinien: 89 (1910).—White & Sloane, The Stapelieae 1: 382 (1937).—Jacobsen, Handbook Succ. Pl. 1: 257 (1960).—Type: ? Bechuanaland, *E. Holub*, s.n. (K. holotype).

Plant a succulent dwarf herb with decumbent stems, ascending towards the apex, rooting where touching the soil. *Stems* stout, 4-angled, usually less than 10 cm. long (rarely up to c. 50 cm.), c. 1.5 cm. thick excluding the teeth, green marbled with purple; teeth stout spreading deltoid acute, up to 1.5 cm. long,



PLATE XXXVIII

Caralluma valida N. E. Brown.Plant from Lupane District, S. Rhodesia, flowering at Greendale, Dec. 1960, *L. C. Leach* 5811.

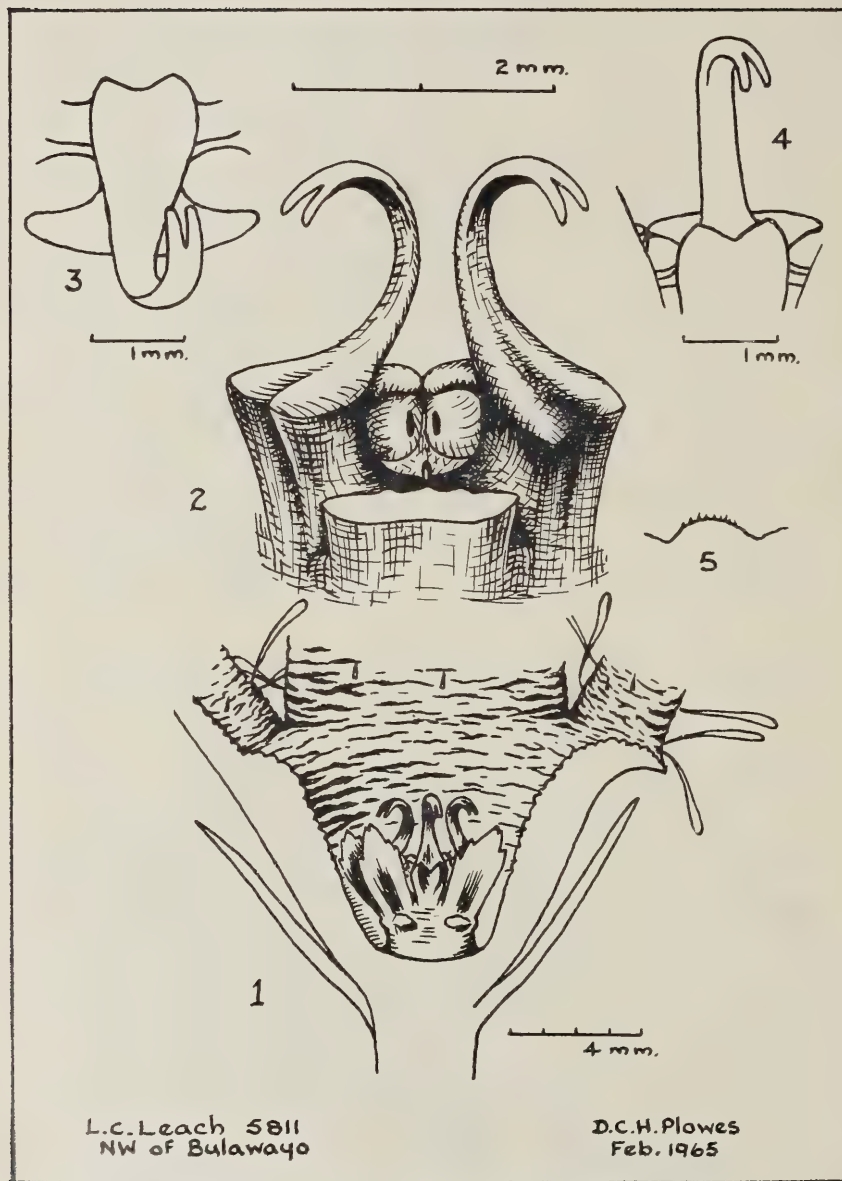
c. 0.5 cm. wide at the base, bearing a pair of minute denticles about 5 mm. below the apex. *Inflorescence* a densely flowered fascicle (sometimes 2 or 3 together) borne on very short stout peduncles, produced from the younger stems, generally from near the base. *Bracts* numerous, fleshy, attenuate, up to 7 mm. long, 2 mm. wide, usually with two or more fleshy subulate teeth up to 2 mm. long, at the sides at or near the base. *Pedicels* terete, 10—15 mm. long, 3 mm. diam., glabrous. *Sepals* 8—9 mm. long, attenuate or narrowly ovate acuminate with spreading or somewhat recurved tips, fleshy, obtuse beneath, glabrous, with a minute fleshy tooth in the sinuses. *Flowers* 20—40, opening more or less simultaneously, exceedingly malodorous. *Corolla* deeply 5-lobed with a short campanulate tube, glabrous outside, microscopically puberulous within, sometimes with a few scattered short stiff hairs up to 0.4 mm. long; tube c. 7 mm. long to the abruptly spreading limb, 10—12 mm. diam. at the mouth; lobes spreading 15—25 mm. long, 5—9 mm. wide at the base, gradually tapering towards the acute apex, heavily rugose on the slightly convex inner surface; margins slightly revolute, densely ciliate with vibratile clavate hairs up to 3 mm. long; there is a very short (prominent in bud) obtuse fleshy tooth in the sinuses of the lobes. *Corona* c. 5.5 mm. diam., c. 3.5 mm. high, slightly raised above the base of the tube, with a transverse gibbosity at the base of the outer lobes, glabrous; outer corona lobes slightly spreading or suberect, thick and fleshy with several rather irregular keels down the inner face, oblong acute or somewhat truncate, dentate, c. 3.5 mm. long, 1.75 mm. wide, shortly adnate at the base to the inner corona lobes, the free portion c. 2 mm. long; inner corona lobes very thick and fleshy at the erect base with a pair of prominent dorsal gibbosities, sharply tapering into the flattened strap shaped apical portion, shortly incumbent on the anthers, erect, recurved at the apex, the apical portion is very variable, sometimes subterete obtuse simple, sometimes only very shortly bifid, sometimes bifid for half its length, all three forms occasionally being found in one corona.

The colour of the flowers is given variously as: deep chocolate (Codd), deep purple maroon (Plowes), deep blood-red (White) and dark purple, almost black (Leach) but all seem agreed on the conspicuousness of the paler coloured vibratile cilia.

? BECHUANALAND. Without locality, ? 1875—1877, *E. Holub* s.n. (K, Holotype)

SOUTH AFRICA. Transvaal: ? Messina, cult. Messina, fl. March 1938, *L. Thompson* s.n. (PRE).

S. RHODESIA. Matobo Distr.: Matopos Research Station, *Acacia* savanna, alt. c. 4,500', cult. fl. 1951, *D. C. H. Plowes* 2454 (K; LISC); Lupane Distr.: Bembesi Riv., $\pm$ 82 miles NW of Bulawayo, *Colophospermum mopane* coppice,

*Caralluma valida* N. E. Brown

- 1 Section of corolla.
 2, 3 and 4 Inner corolla.
 5 Puberulous rugosity.

cult. Greendale, fl. Dec. 1960 *L. C. Leach* 5811 (K; PRE; SRGH); *ibid.*, Mopane scrub on Kalahari sand, fl. Feb. 1965, *L. C. Walter* 10 (SRGH).

ZAMBIA. Barotseland: Shangambo (Siwelewele), cult. PRE, fl. 8.i.1953, *L. E. Codd* 7485 (PRE); Mazabuka Distr.: Siamambo Forest Res., Karroo mud-stone area, "almost the only associate of *Colophospermum mopane*, on site of old termite mound", fl. 27.xi.1960, *F. White* 7420 (FHO; SRGH); Livingstone Distr.: mixed woodland on Kalahari/Karroo sand, cult. Livingstone, fl. Jan. 1964, Dec. 1964 and Jan. 1965, *W. R. Bainbridge* 1017 (FHO; NDO; PRE; SRGH).

Caralluma gossweileri appears to be an extremely rare species and its collection in S. Rhodesia by Mr. D. C. H. Plowes, some 400—500 miles from the type locality (believed to be the only other known locality) is most interesting.

Plowes' plant differs from *Gossweiler's* in several characters (tabulated below) but in view of the extraordinary variability encountered among other members of this group of the genus, particularly in the shape and width of the corolla lobes, it is considered that these differences are probably not of specific significance; the considerable difference in the width of the corolla lobes could also in part be accounted for by the greater degree of lateral shrinkage, as compared with longitudinal, which occurs when flowers are dried.

<i>Gossweiler</i> 2098 (dried material)			<i>Plowes</i> 1884 (spirit material)
Stems		4.5 cm. 1.	normally up to 10 cm. 1.
Stem teeth		1.3 cm. high	2 cm. high
Bracts		3 mm. 1.	up to 8 mm. 1.
Pedicels		15—20 mm. 1.	35—45 mm. 1.
Sepals		5.5 mm. 1. × 3.5 mm. w.	8—9 mm. 1. × 3 mm. w.
Corolla lobes		± 40 mm. 1. × 3 mm. w.	± 45 mm. 1. × 12.5 mm. w.
Inner corona lobes	slightly gibbous with strongly recurved apices.		scarcely gibbous with the apices only slightly diverging.

Caralluma gossweileri is closely related to *C. valida* but is readily distinguished by its very much larger flowers which are borne on much longer pedicels in fascicles of 6—15 flowers and by the complete absence of the ciliation of vibratile clavate hairs which is so characteristic of *C. valida*, while the distinctive inner corona has the lobes gracefully curved in the shape of a coronet.

Caralluma gossweileri S. Moore in Journ. Bot. 50: 367 (1912).—White & Sloane, The Stapelieae 1: 346 (1937).—Type: Angola, Kubango, *Gossweiler* 2098 (BM; COI; K!).

Plant a succulent dwarf herb with stout somewhat decumbent stems. *Stems* glabrous, glaucous green lightly marbled with purple, 4-angled, up to 10 cm.

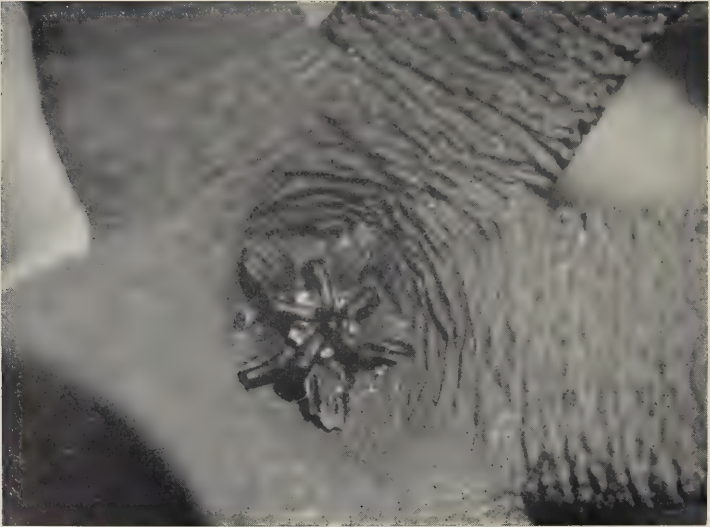


PLATE XXXIX

Caralluma gossweileri S. Moore.

Plant from Nyamandhlovu District, S. Rhodesia, flowering in cultivation, Nov. 1953
D. C. H. Plowes 1884.

Photo: Mr. D. C. H. Plowes

long, c. 1.5 cm. diam. excluding the teeth, somewhat sharply sulcate between the obtuse angles, with stout conical acute spreading teeth; teeth up to 2 cm. long, c. .75 cm. thick at the base, with a minute denticle on each side $\pm$ 5 mm. from the apex, sometimes with a minute fleshy axillary tooth. *Inflorescence* a shortly stoutly pedunculate fascicle (sometimes 2 together) of 6—15 flowers, produced from near the base of the young stems. *Bracts* numerous, glabrous, fleshy, attenuate, up to 8 mm. long, 2 mm. wide, with one or two spreading subulate fleshy teeth up to 1 mm. long on each side at or near the base. *Pedicels* terete, 3.5—4.5 cm. long, c. 3.5 mm. diam., glabrous, pale green. *Sepals* glabrous, 5.5—9 mm. long, c. 3 mm. wide, narrowly ovate acuminate with a minute fleshy tooth in the sinuses. *Flowers* opening simultaneously, "brownish maroon" (Plowes) evil smelling. *Corolla* deeply 5-lobed, with a short campanulate tube, glabrous outside, sometimes slightly microscopically puberulous within, transversely rugose towards the base of the lobes (sometimes almost to the base of the tube) becoming coarsely granular with longitudinal fissures towards the apex; tube c. 7 mm. long, 8—12 mm. diam. at the mouth; lobes spreading, up to 4.5 cm. long, 3 mm. (dried)—12.5 mm. wide at the base, attenuate, the inner surface somewhat convex with slightly revolute margins, entirely without cilia; there is a very short obtuse tooth in the sinuses. *Corona* glabrous, dark shining maroon, $\pm$ 8 mm. diam., slightly raised above the base of the tube; the outer lobes spreading from the shallow rim-like base, oblong, c. 2.5 mm. long, 1.5 mm. wide, with the apex 4-dentate, 3 keeled on the upper convex surface, somewhat concave beneath; the inner lobes shortly adnate to the outer at their base, c. 3.5 mm. long, sometimes slightly gibbous, subterete, gradually tapering towards the obtuse tips, very shortly erect at first then incurved, closely incumbent on the anthers, connivent, shortly divergent or recurved at the apex.

ANGOLA. Kubango: Forte Princeza Amelia, *Gossweiler* 2098 (BM; COI; K!).

S. RHODESIA: Nyamandhlovu Distr., Pasture Research Station, on Kalahari sand in *Baikiaea*—*Terminalia*—*Burkea* association, alt. c. 4,000', cult. Nyamandhlovu, fl. Nov. 1953, *D. C. H. Plowes* 1884 (K; PRE; SRGH).

Gossweiler 12612 (LISC) and *R. Santos* 119a (LISC), both from Huila, Angola, are closely related to *C. gossweileri* but both have cilia of long clavate vibratile hairs; the locality would seem to indicate *C. huillensis* Hiern as the more likely identity but both plants differ in some respects from the description of that species and further investigation is needed before these specimens can be identified with certainty.

The taxonomic problems posed by this group (which also includes *C. lutea* N.E. Brown and the var. *lateritia* (N.E.Br.) Nel, *C. vansonii* Bremek. & Oberm., *C. nebrownii* Berger etc.) are most intriguing; almost every individual appears to